About the Impact of INSPIRE in Latin America & the Caribbean

Antonio F. Rodríguez
CNIG Spain
“The rush to think like an European and feel like an Indian”.

El Inca Garcilaso de la Vega (1539-1616)
INSPIRE Impact in LA&C
A First Approach
A Waterfall of Influence
Influence in PAIGH and GeoSUR
Evolution of American SDIs
Research
Legal Frameworks
Technical aspects
Conclusions
INSPIRE Impact in Latino America and the Caribbean?

• A very difficult question to answer

• Apparently, not very big influence

• Deep and indirect

• Non-tangible and implicit effect, difficult to quantify
A first approach

- Spanish Working Group for NSDI founded in 2002
- INSPIRE Directive 2007
- Spanish Master on SDI and Open Source 2006-2011 6 years
  - AECID International Cooperation Spanish Agency
  - UPM Madrid Polytechnic University
    - 150 hours, one month, 10 h INSPIRE
    - 20 students/course, 120 students
- CNIG e-learning courses on SDI or Metadata 2007-2020 14 years
  - 30 courses of 6 weeks
  - Average 100 students/course, more than 2100 students
  - INSPIRE legal framework, metadata and services
A Waterfall of influence

INSPIRE

IDEE

IDEE

Guatemala SDI

Argentina SDI

Uruguay SDI

Ecuador SDI

... and others
• Spain is PAIGH Permanent Observer
  • PanAmerican Institute of Geography and History (OEA)
• Close collaboration with General Secretariat since 2006
  • SDI, Training, Metadata support...
  • LAMPv2 metadata profile definition

• CNIG member of GeoSUR Steering Committee (2009)
  • GeoSUR is the Geoportal for South America and the Caribbean
  • Coordinated by PAIGH, financed by CAF (until now)
  • 311 OGC services from 17 countries
An example

Source: INSPIRE Position Paper of Architecture and Standards
GeoSURr first technical documents
Evolution of American SDIs

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- INSPIRE and Spanish NSDI influence
- Difficult to quantify
CNIG role as MIAs facilitator

- CNIG is the technical facilitator of Integrated Maps of America (MIAs)
  - MIACv2 2019
    - Central America
  - MIANv1 2017
    - North Andean region
  - MIASv1 2019
    - South America
  - Future MINA ¿2021?
    - North America

INSPIRED in EuroRegionalMap & INSPIRE
Some particular aspects

• Research

• Legal Frameworks

• Technical influence
Research

• LatinGEO (2010)
  • Latino American Research Laboratories Network
  • Led by UPM Madrid Polytechnic University
    • Miguel Ángel Bernabé
  • 5 Universities, 22 Thesis
  • Some projects
    • CYTED IDEAIS (Smart Assistants for SDIs)
    • CYTED IDEDES (SDIS for Sustainable Dev. In LAC)
    • ...
  • Translation of SDI Cookbook into Spanish

http://redgeomatica.rediris.es/redlatingeo/index.html
Two examples

• Bachelor thesis
  • UPM Madrid Polytechnic University

• A Conceptual Model for the Cadaster of Callao (Perú)
  • Based on ISO 19152 LADM and Cadastral parcels INSPIRE specifications
  • Nelson Chavarría

• A Model for Air Navigation Cartography in Ecuador
  • Based on Transport Network and General Feature Model
  • José Yépez
Legal Frameworks

• INSPIRE is one the fundamental references to be studied

• “SDIs and Geographic Rules in Mexico: a Current Perspective”
  Jesus Olvera Ramírez et al,
  Universidad Nacional Autónoma de México, 2014

• A key reference with several sections about INSPIRE
Technical Aspects

- Peru SDI fundamental documents
- Uses INSPIRE as a reference (among others)

Standards for GI Web Services for Public Sector

Good Practices for the Implementation of SDIs in Public Sector
### A little example

- 2003/98/EC Directive on the re-use of PSI
- 2007 INSPIRE Directive
  - Exceptions
    - Public Security, Defense, Public Health...
- 2013/37/UE Directive on RPSI
- 2018 RGPD

- Influence on Mexican Legal Framework
- Other countries
Another one

- Panamerican Insitute of Geography and History (PAIGH) proposal on Fundamental/Reference Themes
  - It takes INSPIRE A I and II as a reference, among others
    - [https://www.ipgh.org/assets/dgf.pdf](https://www.ipgh.org/assets/dgf.pdf)

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GeoSUR geoportal is similar to INSPIRE geoportal

- Metadata catalogue
- Service Status Checker
- Web Services
- Viewer
- Applications
- News, docs...
And other

- INSPIRE is the most used reference on Quality of Service
  - WMS and WMTS
  - Performance $t < 5$ s
  - Availability $> 99\%$

Service Status Checker (FDGDC)
Interoperability Frameworks

2004
European Interoperability Framework v1

2007
Libro Blanco de Interoperabilidad CEPAL

2010
Esquema Nacional de Interoperabilidad v1

2017
European Interoperability Framework v2

TBD
Esquema Nacional de Interoperabilidad v2

https://repositorio.cepal.org/bitstream/handle/11362/2871/52007049_es.pdf?sequence=1&isAllowed=y
https://eur-lex.europa.eu/resource.html?uri=cellar:2c2f2554-0faf-11e7-8a35-01aa75ed71a1.0017.02/DOC_3&format=PDF
Three big influences on SDI & GIS in LAC

BIG solutions
Conclusions

• INSPIRE is a permanent reference on SDI for American countries

• They use the verb “to tropicalize”
  • To try to adapt some technical solution to other latitude

• There also some reluctance
  • Latin America is not Europe

• They don’t take advantage of multilingusm
Some barriers for INSPIRE influence in LAC

• Technological and economic gap
• No Panamerican legal context
• Language
• INSPIRE documents are not easy to understand
• Some INSPIRE weak points
  • Heavy legal-tech. Contents
  • Complex framework
  • Lack of software, specially Open Source software
  • Open Data not fully adopted in UE
INSPIRE influence in Latin America and the Caribbean

• **Quite big**, deep, continuous on time
• It is a clear reference and an object of inspiration
• Specially in
  • Themes organization
  • Legal framework
  • Conceptual models
  • Specifications
  • Metadata
  • QoS
• All SDI experts knows INSPIRE quite well
Thanks a lot for your attention!

Questions?

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